Amendments to the Claims:

1. (currently amended) A microprocessor apparatus comprising:

a program counter for storing a program count value;

a processing unit coupled to the program counter comprising:

(a) an instruction fetching means coupled to the program counter for reading program instructions according to the program count value and storing fetched instructions in a buffer; and

(b) an instruction decoding means coupled to the instruction fetching means for decoding and dispatching buffered instructions for execution;

a read only memory coupled to the processing unit for storing a first ~~afirst~~ program;

an auxiliary programmable-memory coupled to the processing unit for storing patches to replace corresponding instructions in the first program ~~along with a table containing a replacement program count value for each patch~~; and

a controller coupled to the program counter and the processing unit for passing an indirect branch instruction corresponding to one of the patches to the processing unit in response to a match between the program count value and an initializing ~~aninitializing~~ program count value~~,~~;

wherein the processing unit is for executing the indirect branch instruction ~~will~~ to thereby insert a ~~the~~ replacement program count value corresponding to the match into the program counter.

2. (currently amended) The microprocessor apparatus in claim 1 wherein the controller

further comprises:

a register for storing the ~~storingthe~~ initializing program count value.

3. (currently amended) A method for executing patch program segments in lieu of corresponding parts in a first program comprising:

(a) comparing a ~~comparinga~~ program count value of a program counter with an initializing ~~aninitializing~~ program count value;

(b) inserting an indirect branch instruction with an index into a buffer of an instruction fetching means when a match is made in step (a);

(c) executing the indirect branch instruction by a processing unit to thereby access ~~accessing~~ a table in an auxiliary programmable memory according to the index of the indirect branch instruction; and

(d) changing the program count value of the program counter by the processing unit according to an entry in the table ~~entry~~ as a result of executing the indirect branch instruction.

4. (currently amended) The method in claim 3 further comprising:

(e) ending ~~the~~ a finished patch program segment with a terminating instruction branch.

5. (currently amended) The method in claim 4 wherein the first program is stored in a read only memory, the method further comprising:

branching back to the first program in the read only memory with the terminating branch instruction.